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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,846	03/05/2002	Gennady Gauzner	20103-426	8344
7590 10/07/2003		EXAMINER		
MCDERMOTT, WILL & EMERY		ALANKO, ANITA KAREN		
600 13th Street, N.W.		ART UNIT		
Washington, DC 20005-3096		PAPER NUMBER		

1765

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/087,846	GAUZNER ET AL.	
	Examiner	Art Unit	
	Anita K Alanko	1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: |

Drawings

Figures 1A-1D should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Chou (US 5,820,769).

Chou discloses a method comprising:

preheating a workpiece 72 to a pre-selected elevated temperature (col.4, lines 11-15) prior to inserting said workpiece in a stamping/imprinting tool 74 (col.4, lines 5-10) for performing thermal imprint lithography, whereby the interval for thermal cycling of said stamping/imprinting tool between higher and lower temperature is eliminated or at least reduced.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chou (5,820,769) in view of Chou (5,772,905).

The discussion of Chou from above is repeated here.

As to claim 2, Chou '769 does not disclose to heat the tool. Chou '905 teaches that it is known to heat the both the workpiece 20 and the tool 10 (col.4, lines 65-68) to 200 °C. It would have been obvious to one with ordinary skill in the art to heat the tool because Chou '905 teaches that this is a useful technique for thermal imprint lithography.

Chou '905 does not teach to vary the temperature, however it is obvious to one with ordinary skill in the art that varying the temperature will impact the method, and that there is an optimum temperature for both the tool and the workpiece which optimizes cost of the process (less higher temperature could save money), speed (faster or slower time to prepare the tool for processing, and speed of the imprint process itself) and efficiency (the degree of thermal cycling of materials related to the lifetime of the tool) of the imprinting method and properties of the final product.

It would have been obvious to one with ordinary skill in the art maintain the tool at a temperature lower than the workpiece in the method of Chou'769 because Chou '905 teaches that the temperature appears to reflect a result-effective variable which can be optimized. See MPEP 2144.05 IIB.

As to claims 3, 10, 12-18, Chou ' 905 teaches to lower the temperature of the tool (col.5, lines 4-7). It would have been obvious to one with ordinary skill in the art change the

temperatures as cited in the method of Chou '769 because Chou '905 teaches that the temperature appears to reflect a result-effective variable which can be optimized. See MPEP 2144.05 IIB.

As to claim 4, Chou '769 discloses that the workpiece 10 is a flat, disk-shaped substrate 72 for a hard disk recording medium (col. 2, lines 60-65) coated with a layer of a thermoplastic material 70.

As to claim 7, Chou '905 teaches that metal is a useful material for the tool (col.4, line 46). It would have been obvious to use nickel as the metal in the method of Chou '905 to form the tool in Chou '769 because nickel is a well known metal.

As to claims 8-9, 19, it would have been obvious to one with ordinary skill in the art to use a fluorinated polyether compound in the method of Chou '769 because they are well known release agents and Chou '905 teaches that the tool should have good release properties.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chou (5,820,769) in view of Chou (5,772,905) and Ishida et al (US 6,347,016 B1).

The discussion of Chou from above is repeated here.

As to claim 5, Chou '769 does not disclose the material of the workpiece. Ishida teaches that conventional materials for workpieces to be patterned with a servo pattern by imprinting (col.8, line 45; col.9, lines 22-24) includes glass and aluminum (col.9, lines 51-55). It would have been obvious to one with ordinary skill in the art to pattern a servo pattern in aluminum or glass by thermal imprint in the method of Chou because Ishida teaches that imprinting is a useful technique for patterning them.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art shows methods of reducing thermal cycling by controlling the temperatures of molds.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K Alanko whose telephone number is 703-305-7708. The examiner can normally be reached on Monday, Tuesday and Friday, 8:00 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 703-305-2667. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Anita K. Alanko

Anita K Alanko
Primary Examiner
Art Unit 1765